

Application Serial No: 10/570,051
In response to the Office Action mailed on: September 8, 2009

IN THE CLAIMS

Amendments To The Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) An imaging apparatus, comprising:

an imaging device comprising a plurality of pixels having a photoelectric conversion function; and

a microlens array comprising a plurality of microlenses that form subject images on the plurality of pixels in the imaging device and are arranged in a matrix;

wherein the microlens array comprises grooves in a lattice form between the microlenses that are adjacent to each other, and a depth of the grooves is larger than a half of a thickness of the microlens array.

2. (Original) The imaging apparatus according to claim 1, wherein a material of the microlens array comprises a light-transmitting resin.

3. (Original) The imaging apparatus according to claim 1, wherein the microlens array is a plano-convex lens array whose one surface is provided with the microlenses and whose other surface is provided with the grooves and faces the imaging device.

4. (Original) The imaging apparatus according to claim 1, wherein a light-absorbing material is applied to lateral surfaces of the grooves.

5. (Original) The imaging apparatus according to claim 4, wherein the light-absorbing material is black.

6. (Original) The imaging apparatus according to claim 1, wherein a width of the grooves increases toward the imaging device.

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7. (Original) The imaging apparatus according to claim 1, wherein a second material having a smaller light transmittance than a first material forming the microlens array is filled in the grooves.

8. (Original) The imaging apparatus according to claim 7, wherein the second material comprises a material having a light-absorption function.

9. (Original) The imaging apparatus according to claim 7, wherein the second material has a larger refractive index than the first material.

10. (Original) The imaging apparatus according to claim 1, wherein the microlens array is manufactured by a resin molding.

11-13. (Cancelled)

14. (New) The imaging apparatus according to claim 1, wherein the grooves are smaller than a thickness of the microlens array.

15. (New) The imaging apparatus according to claim 1, wherein the depth of the grooves is 70% or less of the thickness of the microlens array.